FSB Role Description – FSW Test Engineer (TE)

Roles & Responsibilities

- Designs, develops and documents FSW tests which verify that FSW requirements were implemented correctly and that the fully integrated and configured FSW system performs as intended for on-orbit operations.

- Reports directly to the FSW Test Lead.

- Performs all assignments according to FSW Branch Processes, Standards, and Guidelines as defined in the FSW Product Plan, CM Plan and other driving documents (e.g., FSW Test Plan and associated FSW test templates and guidelines).

- Provides recommendations to the FSW Branch Standards CCB regarding desired improvements to approved and draft FSW Branch standards and processes. Identifies the need for new FSW development, test, operations, and maintenance standards and processes.

- Contributes to the wording accuracy, completeness, internal consistency, lack of ambiguity and testability of documented FSW requirements and interface definitions.

- Develops a detailed understanding of the requirements management, CM and DCR tools, plus all relevant FSW test tools associated with the FSW test program. Assists in the definition, development and usability of the FSW test environments. Makes recommendations to improve the FSW development, test, documentation and maintenance processes.

- If relevant, develops a detailed understanding of the target hardware architecture including the instruction set, memory constraints, interrupt system, real-time monitoring hardware and software, and bus interfaces.

- If relevant, develops a detailed understanding of the GN&C, power, RF communications, antenna, etc. hardware specifications, interface definitions, algorithms, operations concepts, etc.

- Becomes highly proficient in the use and configurability of the FSW testbeds and ground database as needed to perform build or system level testing.

- Actively participates in FSW requirements, design, code and unit test walk-throughs for all the FSW teams associated with FSW to be tested.

- Actively participates in FSW build and system test scenario and procedure walk-throughs of other test team members.

- Documents apparent problems with the FSW, FSW requirements, ground system, database, simulators, tools, etc. using the FSW team DCR system. Provides thorough and meaningful data and test descriptions along with the DCR to facilitate development team understanding of the situation during which the problem occurred.

- Documents unexpected behavior of the FSW (although possibly consistent with the FSW requirements) using test team test results reporting practices. This information will minimally be useful to other testers, the flight operations team and perhaps lessons learned to developers.

- Prepares and presents material for FSW reviews as requested.

- Supports hardware/software tests (including I&T) plus launch preparation simulations, early operations, and FSW maintenance team preparation. Supports Project, other mission subsystem and Flight Operations staff members are requested.

- Assists in the preparation of software test schedules. Provides accurate and routine status of assigned and scheduled tasks as requested. Prepares for

and participates in all required meetings (status, engineering discussions, training, etc.).

- Employs the same rigor to tests of FSW changes as is done for initial FSW development test assignments.

- Meets negotiated deadlines.

- Actively and routinely contributes to FSW end-product quality and risk mitigation. Notifies team lead(s) and FSW Branch management, as appropriate, of issues, problems, concerns or other observations that could result in risk to the overall quality of the end-product FSW system.

- As a member of a multi-person FSW development and test team, demonstrates positive and tangible initiative toward overall team success (beyond personal assignments).

Ownership and Approval Authority

The FSW Branch Head is the owner of this role description. The FSB Standards CCB has approval authority.

Change History

Version	Date	Change
1.2	06/29/06	DCR #170
1.1	06/28/04	DCR #79 – change name from Position Description to Role Description.
1.0	01/27/04	Initial draft.